

Chambersburg, Pennsylvania

The Depot of choice for Industry, Government, and the Greatest Warfighters in the world.

Industrial Operations Major Items



Capabilities

Complete system overhaul, rebuild, and Reset of Ground Support Equipment

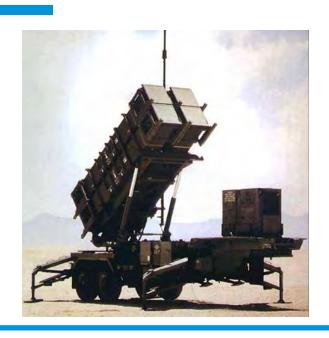
Recapitalization of PATRIOT system to ultimately extend weapon system life cycle

Fly-away modification installation teams that field enhanced weapon system capabilities directly to the War fighter

Emergency technical and maintenance assistance response teams to mitigate non-mission capable events in CONUS and OCONUS

Depot Maintenance Plant Equipment necessary to test to factory specifications in simulated track, electronic counter-measure, and temperature environments

- ➤ Center of Industrial and Technical Excellence (CITE) for Air Defense and Tactical Missile Ground Support Equipment
- ➤ Site host for the International General Purpose Electronic Test Station (GETS) Conference
- ≥ 28-acre radar test facility
- ➤ Only depot with capability to repair the Phased Array Tracking to Intercept of Target (PATRIOT) Radar Set antenna array backplane and align it to electrical bore sight
- Major End Items: PATRIOT and Homing All the Way Killer (HAWK)







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Industrial Operations Automotive Recap & Reset



Capabilities

Complete disassembly of assets; replace or rebuild components to like-new condition

Pre-treat rust prevention process before reassembly; final paint process after vehicle assembly

Vehicle testing includes preshop, road and load as well as final test before shipment to the unit

Quality checks performed throughout recap or reset processes

Dedicated program engineering support through the entire repair process

Products: HMMWVs, HIMARs, G M V s, M R A P s, B I D S, PATRIOT, Avenger, HAWK, and material handling equipment

- ➢ Provide depot level maintenance to Army, National Guard, U.S. Marine Corps, Foreign Military Sales, Special Operations Command, Tactical Army Command, and Joint Program Office-Chemical and Biological Defense
- ➤ Implement Lean Six Sigma methodology and tools for constant improvement resulting in a quality level exceeded by none
- Shingo recipient: PATRIOT '05 and '10 HMMWV '06 and '07









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Industrial Operations Power Generation



Capabilities

Complete A1—overhaul and reset direct support and depotlevel repairs

LEAD generator reset includes 54 variants of skid and trailer mounted. Shipped 'Condition Code A'

Complete load testing on skid and trailer mounts, 5-400kw

Components overhauled include: engine, generator, control deck, input, switch boxes, trailers, fuel components, electrical cables

Product line includes: AGPU new build and reset, 5kw, 10kw, 15kw, 30kw, 60kw, 100kw, and 150kw, SLEP, EPPIII, GANG

Programs supported include: CECOM, BIDS, AAI, Force Provider, Sentinel, and PATRIOT

- ➤ Center of Technical Excellence for Tactical Quiet Generators (TQG), a rugged and reliable military electrical power generating source
- ➤ Power Generation provides electricity to meet mission infrastructure needs in OCONUS and CONUS
- ➤ Easily transportable by trailer, and it operates under extreme environmental conditions
- ➤ Cellular manufacturing product supports fast-flow through-put
- > Aviation Ground Power Unit (AGPU) new build
- ➤ LEAD is the AGPU Reset "Gold Site." All CONUS AGPUs will be reset at LEAD!
- > 45,000 square foot production area







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Industrial Operations Sheet Metal Fabrication



Capabilities

Computer Numeric Control (CNC) laser cutting machines

CNC water jet and high definition plasma cutting machines

CNC punch press and CNC brake presses

100,000-watt spot welder

CNC programmable plate roller

CNC programmable tubing bender

Hydraulic tubing line flaring and test area

20,000 square feet sheet metal production area

- ➤ Lean production methodology parts identification, economical order quantities and complete item kitting
- ➤ Laser cutting: accepts material in sheet sizes with a maximum size of 13'x10', a range from .010" up to 1.25" thick sheet plate, and a .50" thickness for aluminum and stainless steel
- ➤ Waterjet machines cut any type of material including: steel, aluminum, wood, rubber, armor, glass and composites
- ➤ Able to pre-heat many different types of armor and titanium to aid in preventing cracking in the forming process
- ≥ 20,000 square foot production area







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Industrial Operations Machine Shop



Capabilities

Computer Numeric Control (CNC) Bridge Milling Machine — 12'x12' bed

CNC Gantry Mill — 8' x 20' bed

CNC Haas 1600/4 Axis Horizontal Boring Mill

CNC Milling Machines

CNC Lathes

Wire Electrical Discharge
Machines — highly accurate
for unique shaped machine
needs

Rapid Machining Cell

Heat treating

- ➤ With rapid machining technology LEAD can readily test for form, fit, and function
- > Rapid Machining Cell: Intuitive programmable machining allows fast turnaround time from engineering concept to end product
- ➤ Mazak 7 Axis Integrex—Lathe Mill combination reduces set-up time; antenna positioned: capable of simultaneously machining 5 axes
- ➤ Haas CNC router vacuum table: magnet clamping/quick changeover and full sheet milling
- ➤ Machinists trained on geometric dimensioning and tolerance (GD&T) and original equipment manufacturing (OEM)
- Support cooperative education programs
- > 30,000 square foot production area







JETTERKENNYARWYDEPOT

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Industrial Operations Weld Fabrication & Repair



Facts

- > Welding operations range from small component repair, production workload, to full asset modifications and repair
- > High-bay area access with a 60-ton capacity hoist crane that allows fully accessorized vehicles to be pulled inside the bay for repair
- > Production weld items built on precision layout tables and tabbed and slotted with help from in-house production engineering support
- > Welding materials: MIG in steel aluminum, TIG in steel and aluminum, titanium, stainless steel, and various armor grade materials
- ≥ 15,000 square foot production area

Capabilities

Computer Numeric Control (CNC) Robotic Weld Cell

Precision quick set-up tables

Tungeten Inert Gas (TIG)

Mechanical Inert Gas (MIG)

Manual Metal Arc (Stick)

Gas Welding (GMAW)

On-site weld engineering

Aerospace welding (AWS) D17.1 qualified









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Industrial Operations Upholstery



Capabilities

Heavy-duty, double-stitch sewing machines (short arm and long arm)

Computer Numeric Control (CNC) GERBER cutter XLc700 cutting machine with digital scanner

Automated grommet insert machines

Automated snap insert machines

Hot/cold cutting and shearing machines

Tracked vinyl welding machines (including handheld)

Hand-controlled, roller-based sewing machines

- ➤ In-house ability to program or reverse engineer parts from blue prints or samples
- CNC GERBER cutter XLc700 cutting system cuts up to 7.2 cm of compressed material – accommodating a variety of fabric types and material widths up to two meters
- > Water/air tight hot air vinyl welding process
- ➤ Produce and assemble foam-related items (i.e., sound insulation, lead lined headliners, ammunition warhead storage, gaskets, and shipping containers)
- > Large new or repair items can be handled on large layout tables
- > 4,500 square foot production area







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Industrial Operations Material Preparation and Paint



Capabilities

Drive in wash racks, blast, sand and paint booths

Powder-coating paint booth

Metal pre-treat systems

Carousel and pallet paint systems

Table blast cabinets

Alodine/parkerizing stations

Electroplating

- ➤ Depot-level process support includes: equipment cleaning, pressurized abrading, and surface preparation
- > Full spectrum of military specification chemical treatments and coatings for corrosion protection and biological and chemical agent resistance
- ➤ A variety of media and methods applied to perform mechanical paint and corrosion removal to include: plastic, glass, agricultural, steel and garnet blast media
- > STAR4D Painter Training Institute located on the depot



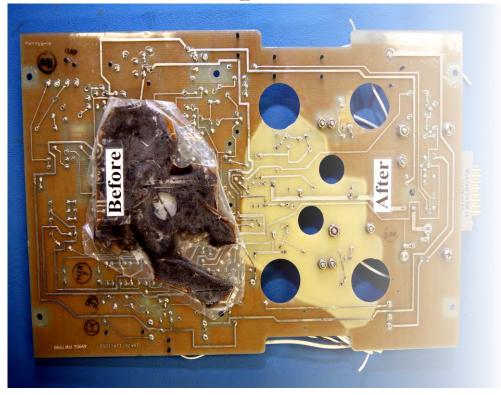




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Industrial Operations Circuit Card Repair



Capabilities

Circuit card support for PATRIOT and HAWK

PATRIOT radar antenna element testing and repair

Avenger coolant reservoir recertification

HAWK launcher slip rings: repair or rebuild

Avenger slew-to-cue slip rings repair

Circuit card testing on GETS 1000B2M or DTE test stations

J-STD-001 soldering and micro miniature soldering

Special projects and unique manufacturing

- Multi-functional shop performing testing, diagnostic, rebuild and repair procedures
- ➤ Highly-skilled workforce tests, modifies and repairs a wide variety of circuit cards and assemblies for the PATRIOT and HAWK missile systems
- ➤ Circuit boards with up to six layers can be processed, repaired or reconstructed
- ➤ General Electric Test Set (GETS) consoles provide state-of-theart technology in diagnostic testing of circuit cards
- ➤ Microwave device testing performed for PATRIOT Radar systems



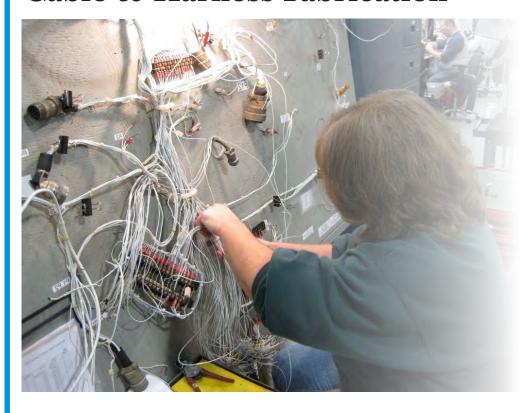




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Industrial Operations Cable & Harness Fabrication



Capabilities

Data Information Test-Material Checkout (DIT-MCO) HV 1500V AC-1500V DC

Hi-Pot testers: HD-100 and 830-10CTS

3-D printer for potting molds

Thermal shrink and laser etchmarking manufacturing

Reel-to-reel spooling for fiber optic and copper cables

Electro-static discharge protected work benches

State-of-the-art soldering stations

Environmentally controlled clean rooms

J-STD-001 certification

IPC/WHMA-A-620A certification

- > Full service fiber optics cabling, splicing, cable harness repair, fabrication, and re-engineering
- > Assembly and attachment of connectors, pins, and hardware
- > Transmission efficiency testing
- ➤ Harness layout process
- ➤ Long cabling capability: 100-350+ feet
- > Final mechanical installation and testing
- > Final inspection
- > 50,000 square foot production area





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Industrial Operations Cable & Harness Rework



Capabilities

Full range of Data Information Test-Material Checkout (DIT-MCO) automated testing

Thermal shock / thermal cycling testing

Laser, thermal and ink jet wire marking and marker manufacturing

Total wire reeling: reel-to-reel, reel-to-cable, coiling

Wire braiding: long length and short run

Long cabling capability: 100 - 350 + feet

- ➤ Complete original equipment manufacturing (OEM)
- ➤ J-Std-001E soldering certification
- ➤ IPC/WHMA-A-620 accreditation
- > 50,000 sq. ft. environmentally controlled production area
- Specialize in fabrication / repair of low volume, one off, specialty harness assemblies
- > Design and reverse engineering
- > Full service cable and harness design, fabrication, repair and testing





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UIDWorks Template B 2" x .75

NOMENCLATURE

Part #: PART NUMBER

Serial #: SERIAL NUMBER

Industrial Operations Item Unique Identification



Capabilities

Dimensions range from 1" x 1" to 20" x 24"; thickness from .005" to .125" using Metal Photo aluminum plates, or Tesa labels

Choose a standard template (A or B), or create a custom template for additional charge

Color schemes: traditional black on silver, silver on black, special rub-on dyes, such as gold, red and orange

Application of adhesive backing: 3M or CARC compatible

IUID data submitted to Registry

Maximum seven working day turn-around time

FedEx shipment to customer

- ➤ Item Unique Identification (IUID): an asset identification system to uniquely identify an asset
- Marking of tangible items or assets in accordance with IUID policy mandated by DFARS and MIL-STD-130
- ➢ IUID saves taxpayer dollars through increased productivity and efficiency
- ➤ Improved item visibility for operational planning for the Warfighter
- Lowers the total life-cycle costs of items acquired and managed
- > Current customer base: AMCOM, TACOM, and CECOM









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Industrial Operations Rebuild: AGPU/GANG



Capabilities

LEAD is the sole source provider of many AGPU parts

LEAD has a hot line support staff and does provide technical support worldwide

LEAD engineering staff provides engineering supports to fabricate new parts that are no longer available

Generic Aircraft Nitrogen Generator (GANG) provides 95.5% pure nitrogen to service/adjust aircraft accumulators, main rotor blades, landing gear struts and tires. The system refills nitrogen bottles used at all levels of aviation maintenance.

APGU provides A/C and D/C power, hydraulic pressure and pneumatic power to assist in aircraft testing and trouble shooting

- ➤ Aviation Ground Power Unit (AGPU) is a multi-function system that provides support to a wide range of helicopters
- ≥ 2012 AGPU Shingo award winner for excellence in manufacturing
- ➤ LEAD is the only (AGPU) Reset "Gold Site" for all CONUS and OCONUS
- ➤ LEAD currently builds brand new AGPUs for the Army and Foreign Military Sales
- > AGPU workload has expanded from RESET/SLEP to becoming the OEM and producing the first new build AGPU's in 25 years





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Industrial Operations

Reset: Power Generation



INCOMING

Capabilities

Complete A1—overhaul and reset direct support and depot-level repairs

LEAD generator reset includes 54 variants of skid and trailer mounted. Shipped 'Condition Code A'

Complete load testing on skid and trailer mounts, 2-420kw

Components overhauled include: engine, generator, control deck, Output Box, switch boxes, trailers, fuel components, all electrical components.

Product lines include: All model variations to include trailer of the 3kw, APU, 5kw, 10kw, 15kw, 30kw, 60kw, 100kw, 150kw, 200kw, 420kw.

Programs supported include: AMCOM, CECOM, BIDS, AAI, Force Provider, Sentinel, PATRIOT

Facts

- ➢ 'Center of Technical Excellence' (CITE) for the Army Tactical Power Fleet, a rugged and reliable military electrical power generating source.
- ➤ Power generation provides electricity to meet mission infrastructure needs in CONUS and OCONUS
- Field assets to units with over 30 employees trained in the fielding and testing procedures.
- ➤ Cellular manufacturing product supports fast-flow through-put within several production lines.
- ➤ 115,000 square foot production area rebuilding 5000+ complete assets year after year; including MJQ's, PU's, and MEP's.



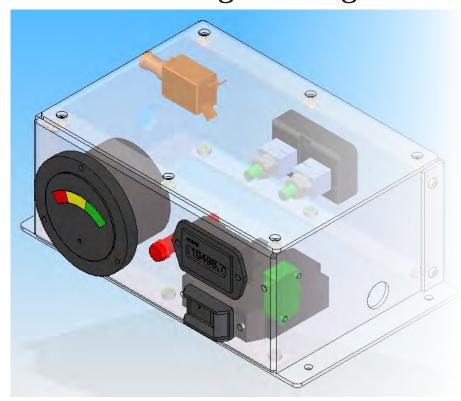
OUTGOING



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Operations Planning & Support Production Engineering



<u>Facts</u>

- > 6 branches supporting all of the Industrial operations, DS&T, TRMD, and LEMC
- > 150 on-board strength; Staff co-located within supported shops
- Manage Capital Investment Program
- > Engineering support contracts in place
- > Completed DMPE purchases worth \$8M & service contracts worth \$55M in FY11
- > Certifications: Professional Engr, APICS CPIM, soldering, welding, NDT, AT&L
- >> Skilled in Lean manufacturing, six sigma, LMP, DELCAM, CAD, ESD, Solid Edge
- Extensive new design efforts ongoing for SOCOM & PMMS
- > Technology Initiatives: aviation, fiber optics, materials testing, low VOC acid wash

Capabilities

Expertise in all Engineering disciplines

3D modeling and computer aided design

Conceptual design & reverse engineering

Rapid prototyping of parts and molds

Complete TDP development

Mechnical writing to included DMWRs, NMWRs, TM's, & work instructions.

Repair and maintenance of IPE (Ind Plant Equip) and ATE (Automated Test Equip)

Cost estimating for overhaul and fabrication new work programs

Complex programming of CNC machines

Economic Analyses & Value Engineering

Routes & BoMs feeding the LMP system

Industrial floor space & process planning

Repair, welding, & reclamation procedures

Obsolescence solutions







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Theater Readiness Monitoring Missile Maintenance Operations



Capabilities

Missile safety test

De-canning and canning of missiles

Explosive handling

PATRIOT Missile Integration Test System

Pressure Testing

Quality Assurance

Explosive weight limitations up to 10,000 lbs.

- ➢ Phased Array Tracking to Intercept of Target (PATRIOT) Missile Facility equipped with built-in temperature, humidity, and dust controls for sub-assembly test areas
- > Foreign Military Sales new build for PATRIOT
- ➤ Complete PATRIOT and Homing All the Way Killer (HAWK) storage, disassembly, testing, and recertification
- > 40K square foot missile building
- > 20K square feet of inert storage
- > 3K square feet of classified storage





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Supply & Transportation



Capabilities

Major End Item dis-assembly program

Mobile all-terrain, 200-ton capacity crane

Container handling 20' and 40', capacity to 95,000 lbs.

Customized kitting program

Box shop on site capable of customizing shipping containers built IAW military standards for CONUS & OCONUS shipping to include prototype design

- CSX rail interchange in close proximity to the depot
- ➤ Department of Transportation certified hazardous material specialists on site
- > Asset preservation & storage
- ≥ 26 million cubic feet of combined inside/outside storage
- Strategically located to ship all modes
- ➤ World wide customer base







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Office of Continuous Improvement

Lean Six Sigma



Capabilities

Ability to apply a variety of Lean Six Sigma tools throughout the depot

Equipped and trained in the use of advanced statistical modeling software

In-house Master Black Belt to train and mentor new belt candidates

Fully trained staff of certified green and black belt Lean facilitators

Ongoing benchmarking of industry leaders to improve Lean practices

Lessons learned and industry best practices applied to every new program

Continuous value stream mapping and process improvement applied to all ongoing workload

Maintaining on time delivery at or below customer cost while maintaining the highest standards of quality

- ▶ LEAD was the first DOD depot to compete for and win a Shingo Prize
- ➢ All validated savings are returned to the customer for redeployment
- > LEAD employees' vested interests are the key to continued Lean success
- ➤ All employees participate in a four-hour Lean Six Sigma basic skills training
- OCI welcomes input and strives to strengthen customer bonds





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Business Development Public-Private Partnerships



Capabilities

Lower cost of products and services; sustain critical skills and capabilities; improve operational efficiencies

Types of partnerships:
Workshare
Teaming
Direct Sales
Facility Use
Lease

Title 10, United States Code: 10 USC 2208(h), (j); 10 USC 2539b; 10 USC 4543; 22 USC 2770 10 USC 2474; 10 USC 4544

Partnership visit/discussions: Non-disclosure agreement; request for proposal, contract of sale and invoicing

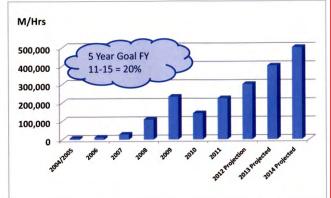
<u>Facts</u>

The Army is committed to maintaining a healthy, effective, and efficient industrial base that is ready and responsive with facilities and equipment that are technologically advanced and with a workforce that is highly qualified.

Public-private partnerships have shown to be a key element in meeting that goal.

AMC PPP Handbook

"A public-private partnership for depot maintenance is an agreement between an organic depot maintenance activity and one or more private industries or other entities to perform work or utilize facilities and equipment"



DUSD(L&MR) Memo dated 30 Jan 02



MERKENNY ARMY DEPO

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ISO ISO 9001 registered ISO ISO 14001 registered ISO OHSAS 18001 registered ISO







VPP Star Certified



The Premier Department of Defense Center of Industrial and Technical Excellence

Air Defense and Tactical Missile Ground Support Equipment Mobile Electric Power Generation Equipment Phased Array Tracking to Intercept of Target (PATRIOT) Missile Recertification Route Clearance Vehicle (RCV)



Eight-time Shingo Award Winner

Silver Shingo in 2005 for the PATRIOT Launcher

Silver Shingo in 2006 for the HMMWV Recap

Bronze Shingo in 2007 for Power Generation

Silver Shingo in 2007 for HMMWV

Bronze Shingo in 2008 for Biological Integrated Detection Systems

Bronze Shingo in 2008 for PATRIOT Missile Recertification

Bronze Shingo in 2010 for the PATRIOT Value Stream

Bronze Shingo in 2011 for Aviation Ground Power Unit Value Stream

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